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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:
Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band

IB Docket No. 95-91
GEN Docket No. 90-357

Comments of CD Radio

I. INTRODUCTION

After a seven year effort, on April 2, 1997, CD Radio, Inc. ("CD Radio"), won the right to bring digital CD-quality satellite radio services to U.S. consumers. CD Radio pledged at auction to pay $83,346,000 to the U.S. treasury for one of two FCC licenses to operate satellite DARS systems.[1] CD Radio subsequently began construction at its own risk on its satellite DARS system[2] and filed a submission and amendment to its satellite DARS application detailing its plans for making state-of-the-art satellite DARS rapidly available to consumers.[3] Concurrently with CD Radio's preparations to offer satellite DARS to the U.S. public, CD Radio

[1] *See* Public Notice, "*FCC Announces Auction Winners for Digital Audio Radio Service*," DA 97-656, Report No. AUC 97-05 (April 2, 1997). CD Radio made the requisite post-auction down payment towards its winning bid of $13,669,200, raising its total down payment to $16,669,200.

[2] *See* Letter from Carl R. Frank, Counsel to Satellite CD Radio, Inc., to William F. Caton, Acting Secretary, Federal Communications Commission, dated May 6, 1997 (providing notification of commencement of space station construction at applicant's own risk pursuant to § 25.113(f) of the rules).

[3] *See Satellite CD Radio, Inc.*, File No. 71-SAT-AMEND-97 (May 16, 1997); *see also* Public Notice, "*Satellite Policy Branch Information: Applications Accepted for Filing*," Report No. SPB-83 (May 23, 1997).

herein comments in the above-captioned *Further Notice of Proposed Rulemaking (Further NPRM)* on the proposed rules for terrestrial repeaters, or "gap-fillers."[4]

In the Commission's order authorizing the licensing of satellite DARS systems, the Commission recognized the substantial public interest benefits that this new service will bring to consumers. Satellite DARS will enable individuals, particularly those in vehicles, to receive nationwide radio programming with digital CD-quality sound.[5] The channel capacity and nationwide scope of satellite DARS will facilitate the provision of niche programming that cannot be supported on a cost-effective basis using locally-based terrestrial technologies.[6] Satellite DARS will also introduce a wide range of audio programming options to rural and mountainous sections of the country that have historically been underserved.[7]

In order to ensure that satellite DARS fulfills its promise of a truly nationwide service, however, it has long been recognized that licensees will need to utilize terrestrial repeaters or "gap fillers" in core urban and satellite obstructed areas such as tunnels.[8] These terrestrial devices will operate by repeating the signal of an associated DARS satellite and no local signals will be inserted. Terrestrial repeaters will be used only in conjunction with operating DARS satellites, on the same frequencies as the satellites and within the authorized coverage area of the

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[4] *Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, IB Docket No. 95-91 (March 3, 1997) ("*Satellite DARS Order*" or "*Further NPRM*").

[5] *See id.*, ¶¶ 1, 10.

[6] *See id.*, ¶¶ 13-15.

[7] *See id.*, ¶¶ 10-12.

[8] *See id.*, ¶ 37 (noting that "[i]t has been widely known and discussed in the record that DARS providers will need to rely on terrestrial repeaters and gap fillers").

licensee. The use of terrestrial repeaters will further the public interest by ensuring that consumers are not deprived of satellite DARS services in difficult propagation environments. Thus, the Commission should adopt rules that enhance the ability of satellite DARS licensees to utilize terrestrial devices to provide the public interest benefits of a truly nationwide service.

II. AS THE COMMISSION CORRECTLY INDICATED IN THE FURTHER NPRM, SATELLITE DARS LICENSEES SHOULD BE FREE TO OPERATE TERRESTRIAL REPEATERS ON AN AS-NEEDED BASIS IN CONJUNCTION WITH, IN THE COVERAGE AREA OF, AND ON THE SAME FREQUENCY AS AN OPERATING SATELLITE DARS SYSTEM WITHOUT OBTAINING A SEPARATE AUTHORIZATION FOR EACH DEVICE.

As the Commission recognized in the *Satellite DARS Order*, CD Radio and the other satellite DARS applicants have assured the Commission that they will use terrestrial gap fillers for the sole purpose of retransmitting the signals of their satellites.[9] Terrestrial devices will not be used to originate programming.[10] Instead, they will operate on the same frequencies as DARS satellites, within the authorized coverage area of the satellites, and solely in conjunction with operating satellite DARS systems.[11] As a result, terrestrial repeaters will not change the essential nature of the satellite DARS service.

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[9] *See id.*, ¶ 140 (observing that all four then satellite DARS applicants indicated in their comments that terrestrial devices would be utilized solely to retransmit the signal of operating satellites).

[10] *See id.* (acknowledging that the commenters in the proceeding agree that terrestrial repeaters would not be used to originate programming).

[11] *See id.* (observing that "the commenters agree that terrestrial repeaters would be used to improve satellite DARS service in the authorized satellite coverage areas only and on the same frequencies, and that they would not be used to extend the satellite coverage area or be used to originate programming").

Given these restrictions, CD Radio will have substantial economic incentive to deploy terrestrial repeaters only where they are highly valued by consumers. Adding repeaters will increase CD Radio's infrastructure costs. Thus, CD Radio will incur these added costs only where the benefits to its customers from the improvement in its satellite signal exceed the costs. CD Radio envisions using only a relatively limited number of repeaters located in difficult propagation environments, primarily in core urban areas. Moreover, as the Commission correctly concluded "it would be burdensome for both the Commission and the licensees if licensees were to seek separate authorization for each terrestrial repeater."[12] In light of these facts, the Commission appropriately recognized in the *Further NPRM* that its rules for terrestrial devices should "permit deployment of satellite DARS gap-fillers, on an as-needed basis by satellite DARS licensees to meet their service requirements."[13]

CD Radio is concerned, however, that the Commission's draft rules may not clearly set forth the Commission's stated conclusion that satellite DARS licensees should be exempt from seeking a separate authorization for each terrestrial repeater.[14] Thus, CD Radio has included herein, as an attachment to its comments, suggested revisions to Section 25.144(e), as proposed. The revised rules would require satellite DARS licensees to obtain prior approval for individual terrestrial repeaters only when:

- the devices would exceed the power levels and/or proximity limits specified in coordination agreements reached with Canada and Mexico for co-frequency systems, or

[12] *Id.*

[13] *Further NPRM,* ¶ 142.

[14] *See* Proposed Rules and Regulations to Add to 47 C.F.R. Part 25 of the Commission's Rules, *included as* Appendix C to *Further NPRM.*

- the repeating transmitter construction or alteration would deviate from the antenna structure clearance requirements of Section 17.4 of the Commission's rules, or
- the repeating transmitter would have significant environmental effects as defined by Sections 1.1301 through 1.1319 of the Commission's rules.

In all other cases, satellite DARS operators would be permitted to operate terrestrial devices without prior Commission approval on an "as needed" basis, relying on the operator's qualifications as a Commission-approved satellite DARS licensee to ensure compliance with the Commission's rules.

Terrestrial repeaters, deployed in relatively limited locations, can help to ensure that satellite DARS becomes a service meeting important needs of the American public. The revised rules suggested by CD Radio would fulfill the Commission's goal of avoiding needless consumption of Commission resources, while ensuring that the Commission has a full opportunity to review any proposal to operate a terrestrial device that would implicate international coordination conflicts, or the Commission's technical, safety, or environmental regulations. CD Radio urges the Commission to adopt its proposed revisions to Section 25.144(e) in order to avoid the inadvertent imposition of a redundant and burdensome layer of paperwork and delay for Commission staff and satellite DARS licensees.

III. CONCLUSION

For the past seven years, CD Radio has championed the satellite DARS service as an economically efficient means to provide consumers in every part of the country with a wide range of CD-quality audio programming. CD Radio strongly believes that substantial consumer demand exists for satellite DARS services. On April 2, 1997, CD Radio demonstrated the extent of its convictions in the FCC's DARS spectrum auctions. CD Radio envisions that its satellite

DARS system will fully satisfy the technology's promise of a high quality radio service available to consumers throughout the continental U.S.

An element in fulfilling this promise is the use of a limited number of terrestrial repeaters, primarily in core urban areas. The repeaters will be used solely in conjunction with CD Radio's satellites, retransmitting the satellite signals on the same frequencies as the satellites, and within CD Radio's authorized coverage area. In light of these facts, CD Radio urges the Commission to adopt CD Radio's proposal for minimally burdensome application requirements for terrestrial devices.

Respectfully submitted,

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CD Radio's Suggested Revisions to 47 C.F.R. § 25.144(e), as Proposed in Appendix C of the *Further NPRM*

1. A new Section is proposed to be added to 25.144 to read as follows:

§ 25.144 Licensing provisions for the 2.3 GHz satellite digital audio radio service.

* * * * *

(e) Licensing of satellite DARS complementary terrestrial repeaters. Satellite DARS licensees may construct and operate terrestrial transmitters to retransmit signals received from their operating DARS satellite(s) on the exclusive frequency assignment of the licensee and for use of the same bandwidth as the satellite space station(s). Terrestrial gap-fillers shall not be used to originate programming or transmit signals other than those received from the authorized DARS satellite. Nor shall terrestrial gap fillers be used to extend satellite DARS coverage outside of the satellite systems' authorized service area. Terrestrial gap-fillers may be implemented by a satellite DARS licensee ~~{only after}~~ **without** obtaining prior Commission authorization ~~{and the licensee demonstrates the following:}~~**, unless one of the following circumstances applies:**

(1) International coordination. Satellite DARS licensees ~~{must demonstrate that its repeating transmitter is located at a distance sufficiently away from the Canadian and Mexican borders or otherwise obtain prior coordination with adjacent country}~~ **shall obtain prior approval for repeating transmitter(s) that exceed the power levels and/or proximity restrictions specified in coordination agreements reached with Canada and Mexico for** co-frequency systems;

(2) Antenna structure clearance required. Satellite DARS licensees shall ~~{demonstrate that its}~~ **obtain prior approval for** repeating transmitter construction or alteration **that** will ~~{comply with}~~ **deviate from** the requirements of Section 17.4 of the Commission's Rules;

(3) Environmental. Satellite DARS licensees shall ~~{demonstrate that its}~~ **obtain prior approval for** repeating transmitter(s) ~~{comply with the Commission's Rules for}~~ **that will have significant** environmental effects as defined by Sections 1.1301 through 1.1319 of the Commission's Rules.

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